ALTO SHAAM®

Heated Glass Shelf Merchandiser

ecosmart™

Model:

HSM-38/3S
HSM-48/5S

- INSTALLATION
- OPERATION
- MAINTENANCE

24•7 Your Service Hotline 1-800-558-8744

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www.alto-shaam.com

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DELIVERY

This Alto-Shaam appliance has been thoroughly tested and inspected to insure only the highest quality unit is provided. Upon receipt, check for any possible shipping damage and report it at once to the delivering carrier. ***See Transportation Damage and Claims section located in this manual.***

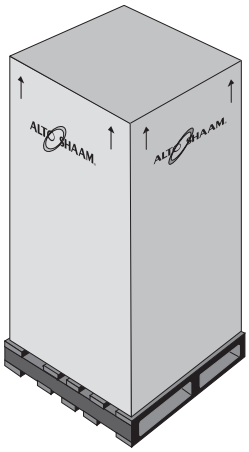
This appliance, complete with unattached items and accessories, may have been delivered in one or more packages. Check to ensure that all standard items and options have been received with each model as ordered.

Save all the information and instructions packed with the appliance. Complete and return the warranty card to the factory as soon as possible to assure prompt service in the event of a warranty parts and labor claim.

This manual must be read and understood by all people using or installing the equipment model. Contact the Alto-Shaam service department if you have any questions concerning installation, operation, or maintenance.

NOTE: All claims for warranty must include the full model number and serial number of the unit.

UNPACKING



1. Carefully remove the appliance from the carton or crate.

   NOTE: Do not discard the carton and other packaging material until you have inspected the unit for hidden damage and tested it for proper operation.

2. Read all instructions in this manual carefully before initiating the installation of this appliance.

   DO NOT DISCARD THIS MANUAL.
   This manual is considered to be part of the appliance and is to be provided to the owner or manager of the business or to the person responsible for training operators. ***Additional manuals are available from the Alto-Shaam service department.***

3. Remove all protective plastic film, packaging materials, and accessories from the appliance before connecting electrical power. Store any accessories in a convenient place for future use.

SAFETY PROCEDURES AND PRECAUTIONS

Knowledge of proper procedures is essential to the safe operation of electrically and/or gas energized equipment. In accordance with generally accepted product safety labeling guidelines for potential hazards, the following signal words and symbols may be used throughout this manual.

DANGER

Used to indicate the presence of a hazard that WILL cause severe personal injury, death, or substantial property damage if the warning included with this symbol is ignored.

WARNING

Used to indicate the presence of a hazard that CAN cause personal injury, possible death, or major property damage if the warning included with this symbol is ignored.

CAUTION

Used to indicate the presence of a hazard that can or will cause minor or moderate personal injury or property damage if the warning included with this symbol is ignored.

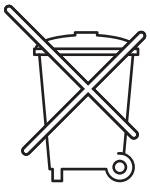
CAUTION

Used to indicate the presence of a hazard that can or will cause minor personal injury, property damage, or a potential unsafe practice if the warning included with this symbol is ignored.

NOTE: Used to notify personnel of installation, operation, or maintenance information that is important but not hazard related.

1. This appliance is intended to hold foods for the purpose of human consumption. No other use for this appliance is authorized or recommended.
2. This appliance is intended for use in commercial establishments where all operators are familiar with the purpose, limitations, and associated hazards of this appliance. Operating instructions and warnings must be read and understood by all operators and users.
3. Any troubleshooting guides, component views, and parts lists included in this manual are for general reference only and are intended for use by qualified technical personnel.
4. This manual should be considered a permanent part of this appliance. This manual and all supplied instructions, diagrams, schematics, parts lists, notices, and labels must remain with the appliance if the item is sold or moved to another location.

NOTE



For equipment delivered for use in any location regulated by the following directive:

DO NOT DISPOSE OF ELECTRICAL OR ELECTRONIC EQUIPMENT WITH OTHER MUNICIPAL WASTE.

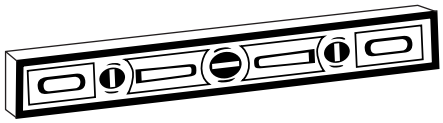
INSTALLATION

SITE INSTALLATION

This appliance, complete with unattached items and accessories, may be delivered in one or more packages. Check to insure that all accessories that were ordered have been received with the unit.

Lift the appliance from the pallet with a fork lift truck positioned at the back of the appliance. Care must be taken when moving this unit into place because of its glass components, and it tends to be top heavy. The five-shelf merchandiser has heavy duty swivel casters with brakes.

Alto-Shaam heated shelf units are designed for the purpose of maintaining hot food at a temperature for safe consumption. The unit must be installed on a level surface in a location that will permit the equipment to function for its intended purpose and allow adequate access for proper cleaning and maintenance. Level the appliance from side to side and back to back with the use of a spirit level.



Do not install near a cold air source as a freezer, air conditioning vents, or in any area where outside air fluctuation can affect performance. This appliance must not be affected by steam, grease, dripping water, high temperatures, or any other adverse conditions.

CLEARANCE REQUIREMENTS
4" (102mm) at back of unit

DANGER

IMPROPER INSTALLATION, ALTERATION, ADJUSTMENT, SERVICE, OR MAINTENANCE COULD RESULT IN SEVERE INJURY, DEATH OR CAUSE PROPERTY DAMAGE.

READ THE INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.

In order to maintain NSF standards, counter models must be sealed at bottom by NSF approved sealant, or equipped with casters, or 4" (102mm) legs to provide minimum unobstructed space beneath the unit. Floor units must also be sealed at bottom or have casters or 6" (152mm) legs to provide minimum unobstructed space beneath the unit. Warranty will become null and void if these directions are not followed.

WEIGHT	HSM-38/3S - THREE SHELF UNIT
NET	335 lb (152 kg)
SHIP	595 lb (270 kg)
CRATE	65" x 46" x 36"
DIMENSIONS:	(1651mm x 1168mm x 914mm)

WEIGHT	HSM-48/5S - FIVE SHELF UNIT
NET	540 lb (245 kg)
SHIP	965 lb (438 kg)
CRATE	87" x 55" x 35"
DIMENSIONS:	(2219mm x 1397mm x 889mm)

CAUTION

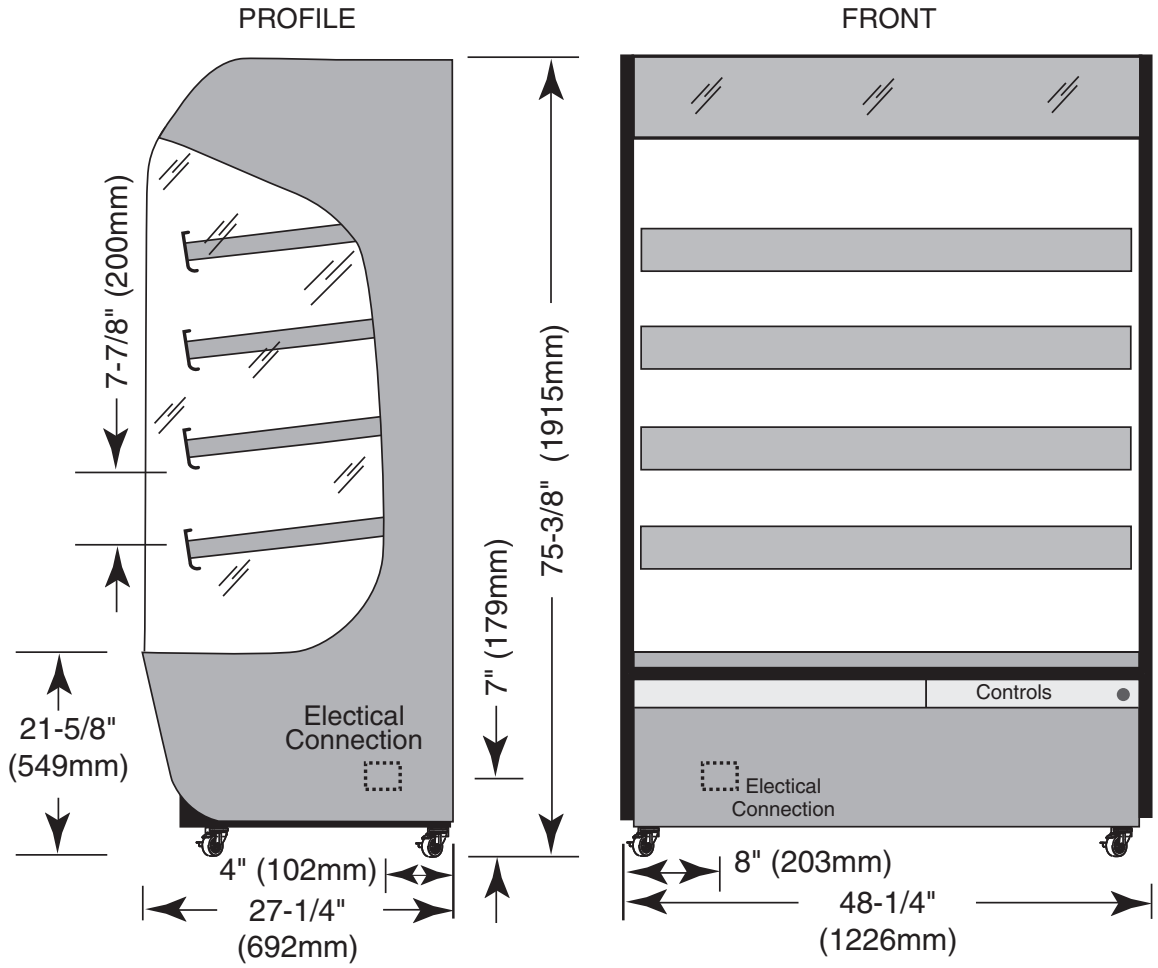
TO PREVENT PERSONAL INJURY, USE CAUTION WHEN MOVING OR LEVELING THIS APPLIANCE.

INSTALLATION

SITE INSTALLATION

HSM-48/5S

OPTIONS & ACCESSORIES	
Custom Panel Colors	
Black or Burgundy	Available
Pass-through Design	
Rear Sliding Doors	Available
Legs, 6" (152mm)	5205

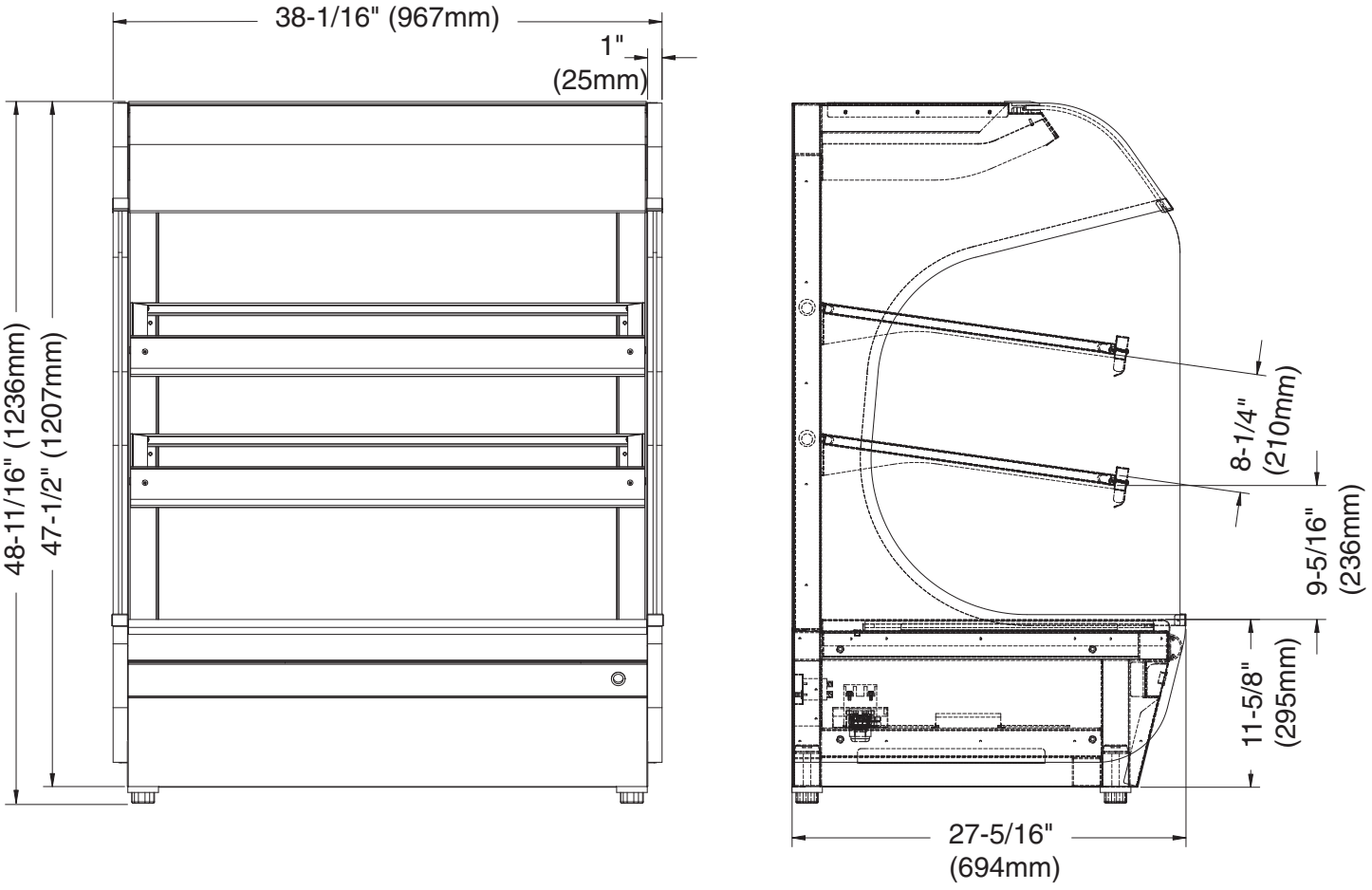


INSTALLATION

SITE INSTALLATION

HSM-38/3S

OPTIONS & ACCESSORIES	
Cabinet	
Burgundy	5002703
Brushed Stainless Steel	5004919
Black	5004920
Custom Panel Colors	
Burgundy or Black	Available
Pass-through Design	
Rear Sliding Doors	Available
Legs, 6" (152mm)	5205



INSTALLATION

ELECTRICAL

An identification tag is permanently mounted on the cabinet.

⚠ DANGER

ENSURE POWER SOURCE MATCHES VOLTAGE STAMPED ON APPLIANCE NAMEPLATE.

Permanent wiring or electrical outlets for this appliance must be installed by a licensed electrician in accordance with local, country, or national codes.

This appliance must be connected to a dedicated circuit: *(see below)*

HSM-38/3S –– 20 Amp circuit
HSM-48/5S –– 30 Amp circuit

Always position the appliance so the power supply cord is easily accessible in case of emergency. Plug the unit into a properly grounded receptacle ONLY. Arcing will occur when connecting or disconnecting the unit unless all controls are in the OFF position.

NOTE: The appliance must be connected to an electrical circuit that is protected by an external GFCI outlet.

ELECTRICAL, HSM-48/5S — FIVE SHELF UNIT

VOLTAGE	PHASE	CYCLE/ HZ	AMPS	kW	CORD SUPPLIED WITHOUT PLUG
208-240	1	50/60	24.0	5.7	NEMA L6-30P 30A-250V *RECOMMENDED*
*MUST BE ON ITS OWN **30** AMP CIRCUIT*					
380	3	50/60	10.0	5.7	CORD SUPPLIED NO PLUG

ELECTRICAL, HSM-48/3S — THREE SHELF UNIT

VOLTAGE	PHASE	CYCLE/ HZ	AMPS	kW	CORD SUPPLIED WITHOUT PLUG
208-240	1	50/60	12.5	3.0	NEMA 6-20P 20A-250V *RECOMMENDED*
*MUST BE ON ITS OWN **20** AMP CIRCUIT*					
230	1	50/60	11.75	2.7	CORD, NO PLUG

INSTALLATION

USER SAFETY INFORMATION

This appliance is intended for use in commercial establishments where all operators are familiar with the purpose, limitations, and associated hazards of this appliance. Operating instructions and warnings must be read and understood by all operators and users.

Before Initial Use:

Before operating the merchandiser, clean it with a damp cloth and mild soap solution. Glass cleaner can be used on the glass.

Special Instructions:

1. Do not allow liquids or food to come in direct contact with the glass shelves.
2. Use hand protection when handling hot items.
3. Be certain only hot foods in appropriate heat tested containers are used.
4. It is recommended that plastic or paper containers be used. Pans or dishes can scratch the glass.
5. Be careful not to overheat as this may cause some containers to melt.
6. Do not stack containers.

Heating Characteristics

The heated upper glass surface provides even heat transfer to hot food in heat tested containers that are held in direct contact with the glass top.

CAUTION

METAL PARTS OF THIS EQUIPMENT BECOME EXTREMELY HOT WHEN IN OPERATION. TO AVOID BURNS, ALWAYS USE HAND PROTECTION WHEN OPERATING THIS APPLIANCE.

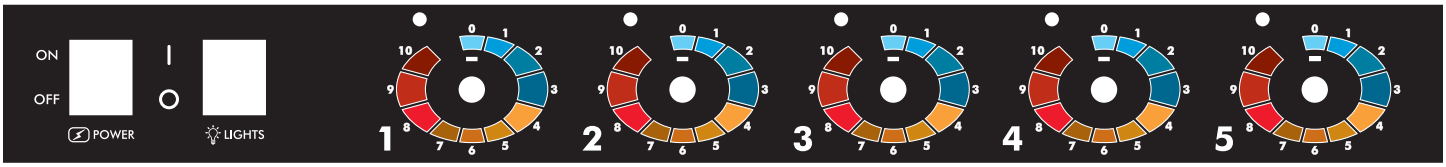
PRODUCT CAPACITY - HSM-48/5S
150 lb (68 kg) MAXIMUM
EACH SHELF
Ten (10) chicken boats with dome cover

PRODUCT CAPACITY - HSM-38/3S
52 lb (23.6 kg) MAXIMUM
EACH SHELF
Eight (8) chicken boats with dome cover

To avoid personal injury and damage to the unit, treat glass with care.

Remember –– glass can shatter.

OPERATION



ON/OFF switch | LIGHT switch | bottom shelf | 2nd shelf from bottom | 3rd shelf from bottom | 4th shelf from bottom | top shelf

1. **Check that the unit is connected to the appropriate power source.**

2. **Slide open the control panel. Press power and light switches on.**

3. **Turn thermostat(s) to a predetermined number and preheat for 30 minutes.**

   Each shelf has its own thermostat control numbering from 0 to 10. When the thermostat is turned clockwise to the determined number, the indicator light will illuminate and will remain lit as long as the shelf is calling for heat.

   The indicator light will go OUT when the temperature on the glass top reaches the set number determined by the operator. It will then cycle "ON/OFF" at this holding point.

   The shelves will hold a steady even heat as assigned. The user must determine what set point can be used regarding each food item held on its corresponding shelf. It is recommended that a similar food product be placed on each shelf.

   Always use the top shelf for the highest heat assignment, and the bottom shelf for the lowest heat assignment.

   The proper temperature range for the food being held will depend on the food type, the packaging, and the quantity of product. When holding food for prolonged periods, it is advisable to periodically check the internal temperature of each item to assure maintenance of the proper temperature range.

4. **Load prepackaged hot foods into the merchandiser.**

   Before loading food into the unit, use a pocket-type meat thermometer to make certain all products have reached an internal temperature of 160° F (71°C) or higher. If any food product is not at proper serving temperature, use a Halo Heat cooking and holding oven or Combitherm Oven to bring the product within the correct temperature range.

5. **Occasionally stir or rotate foods as needed.**

   Wipe spills immediately to assure maximum eye appeal and minimize end-of-the-day cleanup.

OPERATION

GENERAL HOLDING GUIDELINES

Chefs, cooks and other specialized food service personnel employ varied methods of cooking. Proper holding temperatures for a specific food product must be based on the moisture content of the product, product density, volume, and proper serving temperatures. Safe holding temperatures must also be correlated with palatability in determining the length of holding time for a specific product.

Halo Heat maintains the maximum amount of product moisture content without the addition of water, water vapor, or steam. Maintaining maximum natural product moisture preserves the natural flavor of the product and provides a more genuine taste.
In addition to product moisture retention, the gentle properties of Halo Heat maintain a consistent temperature throughout the cabinet without the necessity of a heat distribution fan, thereby preventing further moisture loss due to evaporation or dehydration.

When product is removed from a high temperature cooking environment for immediate transfer into equipment with the lower temperature required for hot food holding, condensation can form on the outside of the product and on the inside of plastic containers used in self-service applications. Allowing the product to release the initial steam and heat produced by high temperature cooking can alleviate this condition. To preserve the safety and quality of freshly cooked foods, however, a maximum of 1 to 2 minutes must be the only time period allowed for the initial heat to be released from the product.

This appliance is equipped with a thermostat indicating a range of between 0 and 10. Use a metal-stemmed thermometer to measure the internal temperature of the product(s) being held. Adjust the thermostat setting to achieve the best overall setting based on internal product temperature.

HOLDING TEMPERATURE RANGE

MEAT	FAHRENHEIT	CELSIUS
BEEF ROAST — Rare	130°F	54°C
BEEF ROAST — Med/Well Done	155°F	68°C
BEEF BRISKET	160° — 175°F	71° — 79°C
CORN BEEF	160° — 175°F	71° — 79°C
PASTRAMI	160° — 175°F	71° — 79°C
PRIME RIB — Rare	130°F	54°C
STEAKS — Broiled/Fried	140° — 160°F	60° — 71°C
RIBS — Beef or Pork	160°F	71°C
VEAL	160° — 175°F	71° — 79°C
HAM	160° — 175°F	71° — 79°C
PORK	160° — 175°F	71° — 79°C
LAMB	160° — 175°F	71° — 79°C
POULTRY		
CHICKEN — Fried/Baked	160° — 175°F	71° — 79°C
DUCK	160° — 175°F	71° — 79°C
TURKEY	160° — 175°F	71° — 79°C
GENERAL	160° — 175°F	71° — 79°C
FISH/SEAFOOD		
FISH — Baked/Fried	160° — 175°F	71° — 79°C
LOBSTER	160° — 175°F	71° — 79°C
SHRIMP — Fried	160° — 175°F	71° — 79°C
BAKED GOODS		
BREADS/ROLLS	120° — 140°F	49° — 60°C
MISCELLANEOUS		
CASSEROLES	160° — 175°F	71° — 79°C
DOUGH — Proofing	80° — 100°F	27° — 38°C
EGGS —Fried	150° — 160°F	66° — 71°C
FROZEN ENTREES	160° — 175°F	71° — 79°C
HORS D'OEUVRES	160° — 180°F	71° — 82°C
PASTA	160° — 180°F	71° — 82°C
PIZZA	160° — 180°F	71° — 82°C
POTATOES	180°F	82°C
PLATED MEALS	140° — 165°F	60°— 74°C
SAUCES	140° — 200°F	60° — 93°C
SOUP	140° — 200°F	60° — 93°C
VEGETABLES	160° — 175°F	71° — 79°C

THE HOLDING TEMPERATURES LISTED ARE SUGGESTED GUIDELINES ONLY. ALL FOOD HOLDING SHOULD BE BASED ON INTERNAL PRODUCT TEMPERATURES. ALWAYS FOLLOW LOCAL HEALTH (HYGIENE) REGULATIONS FOR ALL INTERNAL TEMPERATURE REQUIREMENTS.

CARE AND CLEANING

CLEANING AND PREVENTIVE MAINTENANCE

PROTECTING STAINLESS STEEL SURFACES

It is important to guard against corrosion in the care of stainless steel surfaces. Harsh, corrosive, or inappropriate chemicals can completely destroy the protective surface layer of stainless steel. Abrasive pads, steel wool, or metal implements will abrade surfaces causing damage to this protective coating and will eventually result in areas of corrosion. Even water, particularly hard water that contains high to moderate concentrations of chloride, will cause oxidation and pitting that result in rust and corrosion. In addition, many acidic foods spilled and left to remain on metal surfaces are contributing factors that will corrode surfaces.

Proper cleaning agents, materials, and methods are vital to maintaining the appearance and life of this appliance. Spilled foods should be removed and the area wiped as soon as possible but at the very least, a minimum of once a day. Always thoroughly rinse surfaces after using a cleaning agent and wipe standing water as quickly as possible after rinsing.

CLEANING AGENTS

Use non-abrasive cleaning products designed for use on stainless steel surfaces. Cleaning agents must be chloride-free compounds and must not contain quaternary salts. Never use hydrochloric acid (muriatic acid) on stainless steel surfaces. Always use the proper cleaning agent at the manufacturer's recommended strength. Contact your local cleaning supplier for product recommendations.

CLEANING MATERIALS

The cleaning function can usually be accomplished with the proper cleaning agent and a soft, clean cloth. When more aggressive methods must be employed, use a non-abrasive scouring pad on difficult areas and make certain to scrub with the visible grain of surface metal to avoid surface scratches. Never use wire brushes, metal scouring pads, or scrapers to remove food residue.

⚠ CAUTION

TO PROTECT STAINLESS STEEL SURFACES, COMPLETELY AVOID THE USE OF ABRASIVE CLEANING COMPOUNDS, CHLORIDE BASED CLEANERS, OR CLEANERS CONTAINING QUATERNARY SALTS. NEVER USE HYDROCHLORIC ACID (MURIATIC ACID) ON STAINLESS STEEL. NEVER USE WIRE BRUSHES, METAL SCOURING PADS OR SCRAPERS.

CARE AND CLEANING

The cleanliness and appearance of this unit will contribute considerably to operating efficiency and savory, appetizing food. Good equipment that is kept clean works better and lasts longer.

NOTE: Avoid the use of abrasive cleaning compounds, chloride based cleaners, or cleaners containing quaternary salts. *Never* use hydrochloric acid (muriatic acid) on stainless steel.

CLEAN THE UNIT THOROUGHLY AFTER EACH USE

1. Turn lights and adjustable thermostat(s) to the "OFF" position. Disconnect unit from power source, and let cool.
2. Remove, cover or wrap, and store food product under refrigeration.
3. *Do not clean the glass when hot.* The glass should be cleaned regularly with fresh warm water, a mild detergent, and a clean, non-abrasive cloth. Glass cleaner can be used.
4. Clean other interior components with a damp cloth or sponge and any good commercial detergent at the recommended strength.
5. Spray heavily soiled areas with a water soluble degreaser and let stand for 10 minutes, then remove soil with a plastic scouring pad.
6. Clean control panel, vents, handles, and gaskets thoroughly since these areas harbor food debris.
7. Rinse surfaces by wiping with sponge and clean warm water.
8. Remove excess water with sponge and wipe dry with a clean cloth or air dry.
9. Interior can be wiped with a sanitizing solution after cleaning and rinsing. This solution must be approved for use on food contact surfaces.
10. To help maintain the protective film coating on any polished stainless steel, clean the exterior of the cabinet with a cleaner recommended for stainless steel surfaces. Spray the cleaning agent on a clean cloth and wipe with the grain of the stainless steel.

Always follow appropriate state or local health (hygiene) regulations regarding all applicable cleaning and sanitation requirements for foodservice equipment.

DANGER

AT NO TIME SHOULD THE INTERIOR OR EXTERIOR BE STEAM CLEANED, HOSED DOWN, OR FLOODED WITH WATER OR LIQUID SOLUTION OF ANY KIND. DO NOT USE WATER JET TO CLEAN.

SEVERE DAMAGE OR ELECTRICAL HAZARD COULD RESULT.

WARRANTY BECOMES VOID IF APPLIANCE IS FLOODED

⚠ DANGER

DISCONNECT UNIT FROM POWER SOURCE BEFORE CLEANING OR SERVICING.

SANITATION

Food flavor and aroma are usually so closely related that it is difficult, if not impossible, to separate them. There is also an important, inseparable relationship between cleanliness and food flavor. Cleanliness, top operating efficiency, and appearance of equipment contribute considerably to savory, appetizing foods. Good equipment that is kept clean, works better and lasts longer.

Most food imparts its own particular aroma and many foods also absorb existing odors. Unfortunately, during this absorption, there is no distinction between GOOD and BAD odors. The majority of objectionable flavors and odors troubling food service operations are caused by bacteria growth. Sourness, rancidity, mustiness, stale or other OFF flavors are usually the result of germ activity.

The easiest way to insure full, natural food flavor is through comprehensive cleanliness. This means good control of both visible soil (dirt) and invisible soil (germs). A thorough approach to sanitation will provide essential cleanliness. It will assure an attractive appearance of equipment, along with maximum efficiency and utility. More importantly, a good sanitation program provides one of the key elements in the prevention of food-borne illnesses.

A controlled holding environment for prepared foods is just one of the important factors involved in the prevention of food-borne illnesses. Temperature monitoring and control during receiving, storage, preparation, and the service of foods are of equal importance.

The most accurate method of measuring safe temperatures of both hot and cold foods is by internal product temperature. A quality thermometer is an effective tool for this purpose, and should be routinely used on all products that require holding at a specific temperature.

A comprehensive sanitation program should focus on the training of staff in basic sanitation procedures. This includes personal hygiene, proper handling of raw foods, cooking to a safe internal product temperature, and the routine monitoring of internal temperatures from receiving through service.

Most food-borne illnesses can be prevented through proper temperature control and a comprehensive program of sanitation. Both these factors are important to build quality service as the foundation of customer satisfaction. Safe food handling practices to prevent food-borne illness is of critical importance to the health and safety of your customers.

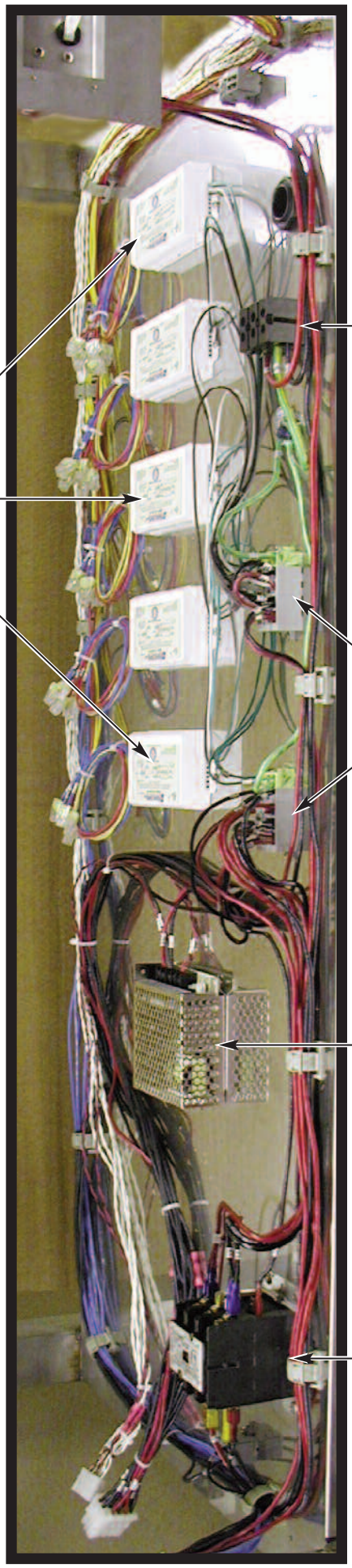
HACCP, an acronym for Hazard Analysis (at) Critical Control Points, is a quality control program of operating procedures to assure food integrity, quality, and safety. Taking steps necessary to augment food safety practices are both cost effective and relatively simple. While HACCP guidelines go far beyond the scope of this manual, additional information is available by contacting:

CENTER FOR FOOD SAFETY AND APPLIED NUTRITION FOOD AND DRUG ADMINISTRATION 1-888-SAFEFOOD

INTERNAL FOOD PRODUCT TEMPERATURES		
HOT FOODS		
DANGER ZONE	40° TO 140°F	(4° TO 60°C)
CRITICAL ZONE	70° TO 120°F	(21° TO 49°C)
SAFE ZONE	140° TO 165°F	(60° TO 74°C)
COLD FOODS		
DANGER ZONE	ABOVE 40°F	(ABOVE 4°C)
SAFE ZONE	36°F TO 40°F	(2°C TO 4°C)
FROZEN FOODS		
DANGER ZONE	ABOVE 32°F	(ABOVE 0°C)
CRITICAL ZONE	0° TO 32°F	(-18° TO 0°C)
SAFE ZONE	0°F or below	(-18°C or below)

SERVICE

Description	Five shelf HSM-48/5S	Three shelf HSM-38/3S
Power Supply Board	BA-33554	BA-33554
Control Board	BA-34294	BA-34294
Block, Terminal, 3-pole	BK-3019	BK-3019
Block, Terminal, 380/415V	BK-3597	--
T-Block, Modular	BK-25567	BK-25567
T-Block, sensor	BK-34069	BK-34069
T-Block, sensor	BK-34070	BK-34070
T-Block, shelf	BK-34071	BK-34071
Bumper base	BM-26260	BM-26260
Bumper top	BM-26261	BM-26261
Bushing for Cord	BU-33505	BU-3964
Cord, Electrical, 208/240V	CD-3304	CD-3607
Cord, Electrical, 230V	--	CD-33490
Cord, Electrical, 380/415V	CD-3727	--
Circuit Breaker, 208/240V	CI-34105	CI-34105
Circuit Breaker, 380/415V	CI-33772	--
Contactor, Main	CN-3052	CN-3052
Casters, 3" (76mm) swivel w/ brake	CS-24351	--
Door, Left, w/ door stop (PASS THROUGH DESIGN ONLY)	DR-25948	DR-27813
Door, Right (PASS THROUGH DESIGN ONLY)	DR-25947	DR-27814
Feet, adjustable	--	FE-27153
Filter, 380/415V	FI-34175	--
Glass, heated, shelf	GL-25860	GL-26212
Glass, vertical, right hand	GL-25945	GL-26273
Glass, vertical, left hand	GL-25951	GL-26272
Glass, front, curved	GL-26081	GL-26275
Knob, Control	KN-26290	KN-26290
Knob, Slide Panel	KN-26379	KN-26379
Lamp, Fluorescent	LP-33822	LP-34156
Lamp, Fluorescent, 230V	--	LP-33822
Lamp Ballast, 208/240V	LP-34024	LP-34135
Lamp Ballast, 230V	--	LP-34123
Lamp Ballast, 380/415V	LP-34123	--
Panel Overlay	PE-26096	PE-26096
Panel, end, formica	PE-26068	PE-26274
Receptacle, Lamp	RP-34160	RP-34160
Relay, 380/415V	RL-34176	--
Switch, light, power	SW-3887	SW-3887
Panel, Top, Canopy, S/S	1005470	1005712
Panel, Lower side, RH, Black	1004668	1005706
Panel, Lower side, LH, Black	1004669	1005708
Panel, Front, base, Stainless Steel	1005475	1005710
Panel, Cover, lower back, 208-240V	1002785	1003444
Panel, Cover, lower back, 230V	--	1005823
Panel, Cover, lower back, 380V/415V	1003975	--
Panel, Cover, upper back, 208-240V	1002786	1003443
Panel, Cover, upper back, 230V	--	1005824
Panel, Cover, upper back, 380/415V	1004217	--
Panel, Cover, back, top	1003978	1007627
Panel, Cover, back, side	1007502	1007628

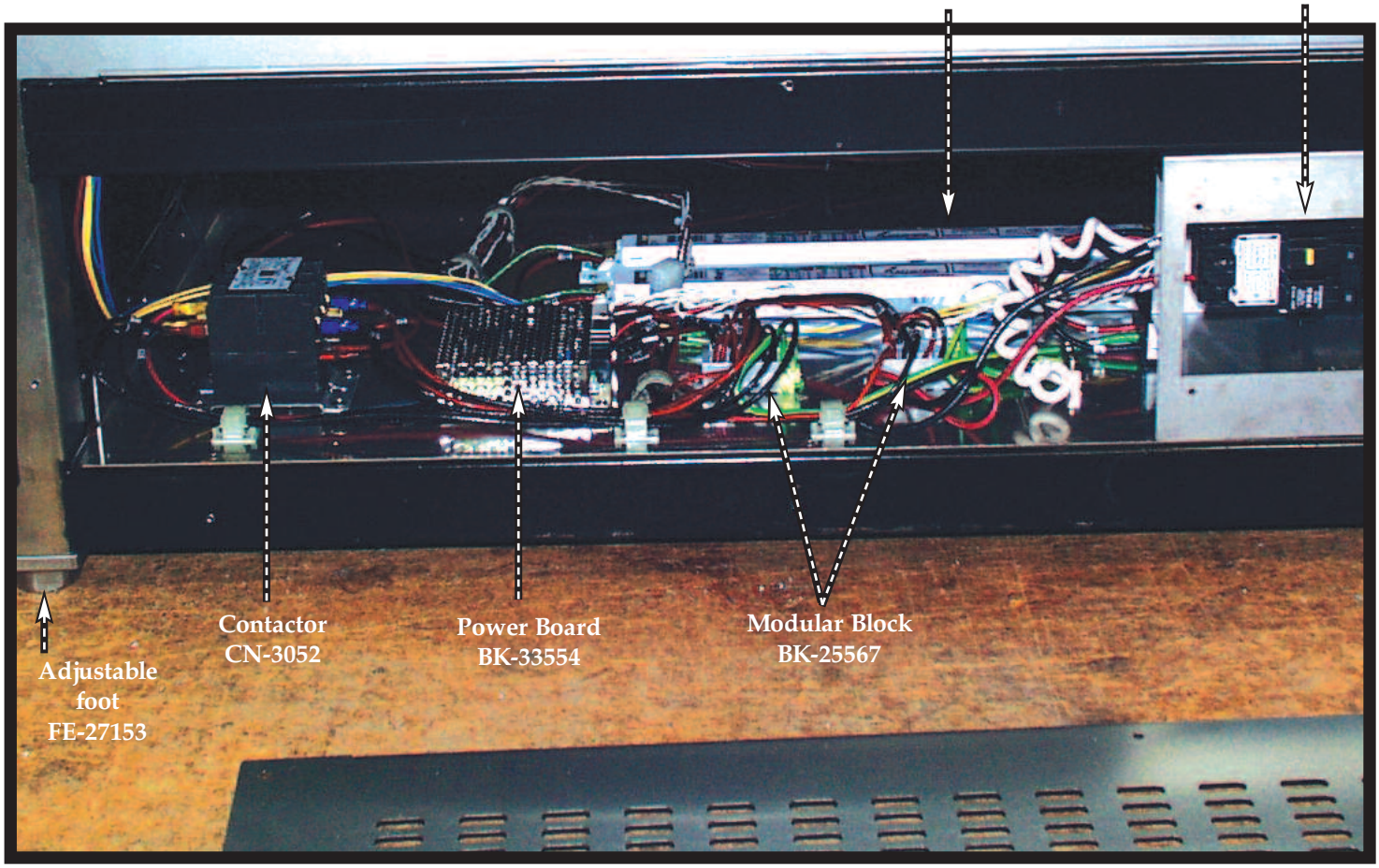


24•7
Your Service Hotline
1-800-558-8744

Service View
HSM-48/5S
208/240V

SERVICE

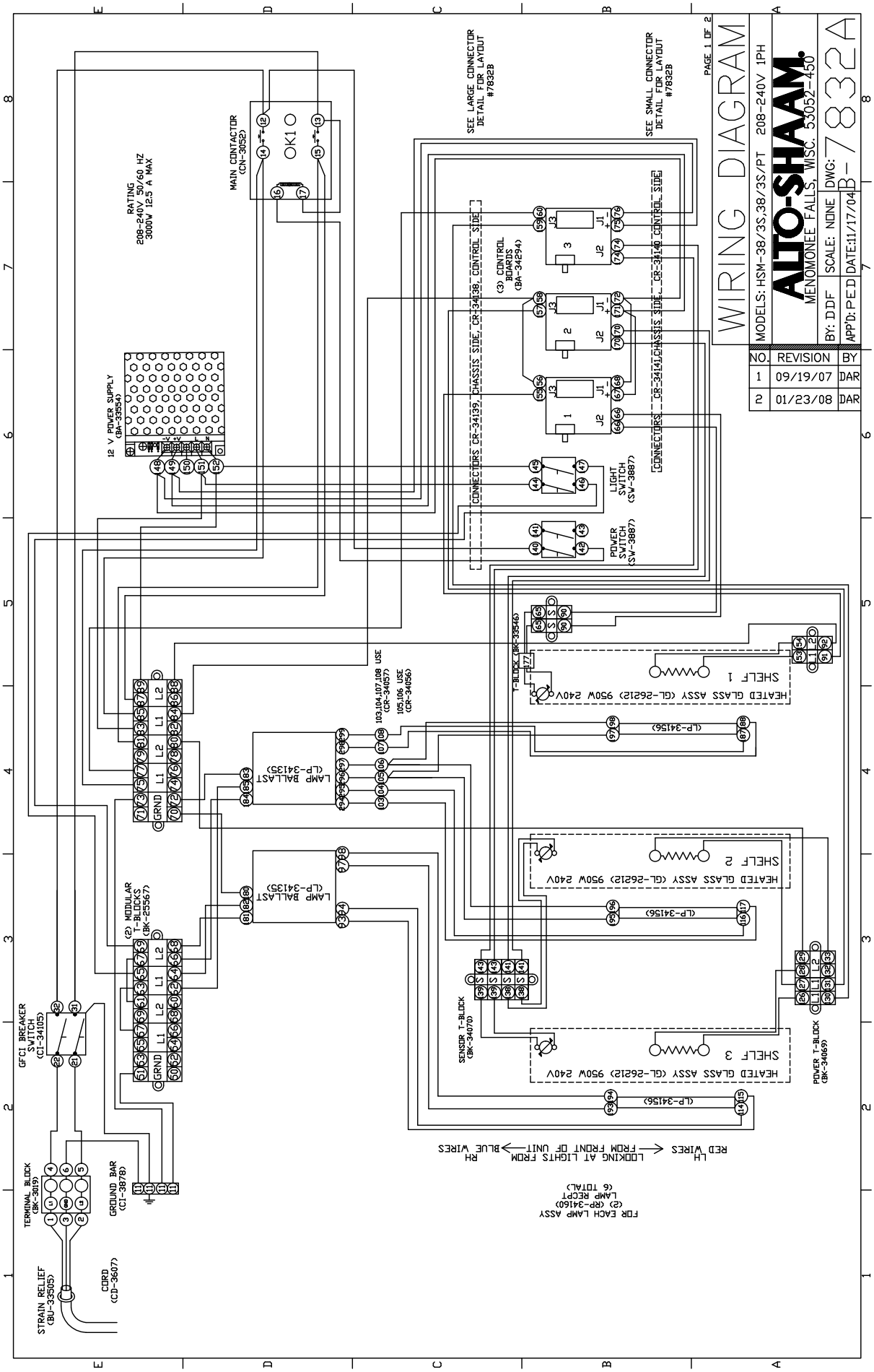
Service View
HSM-38/5S

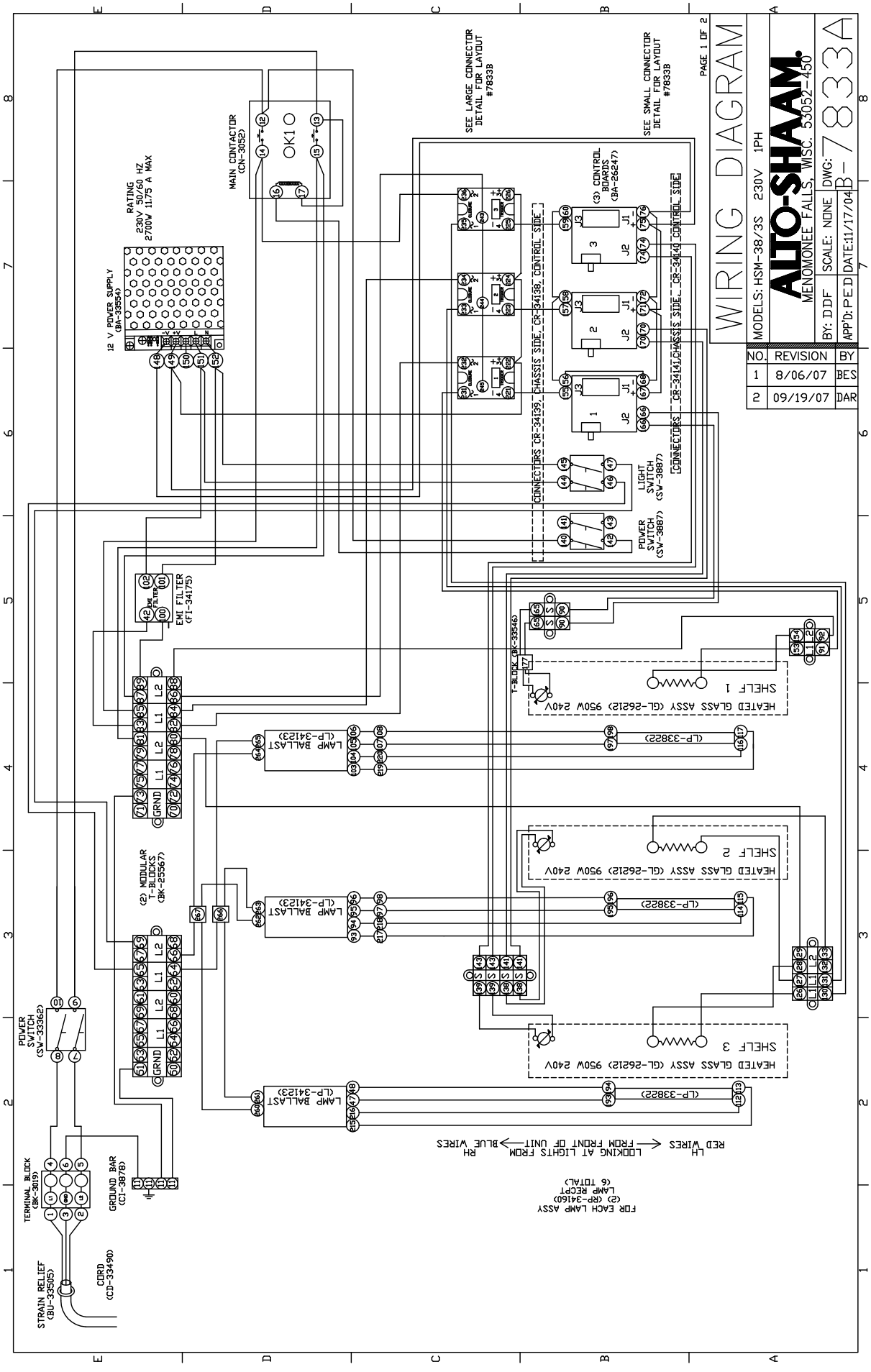


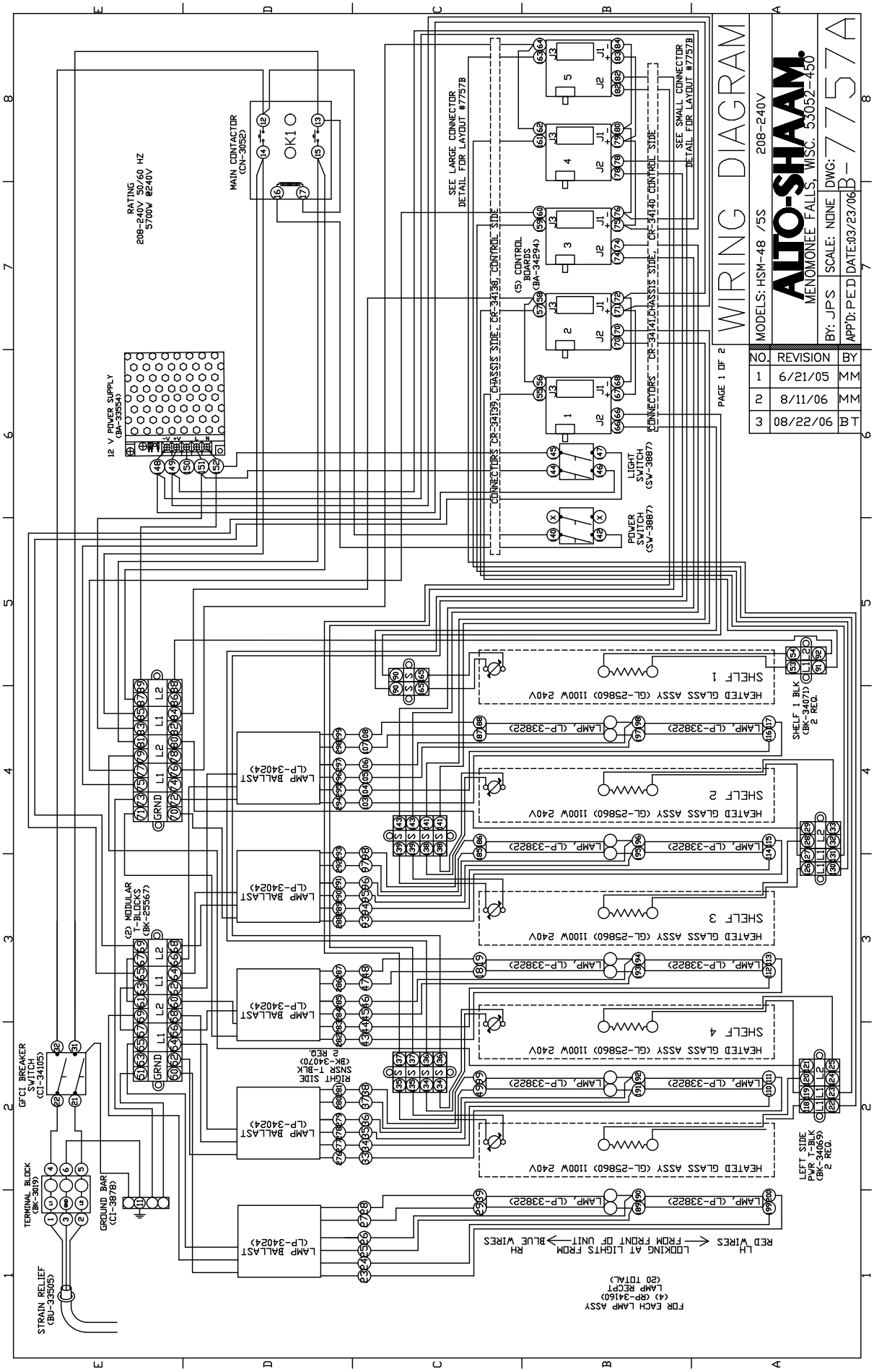
CAUTION

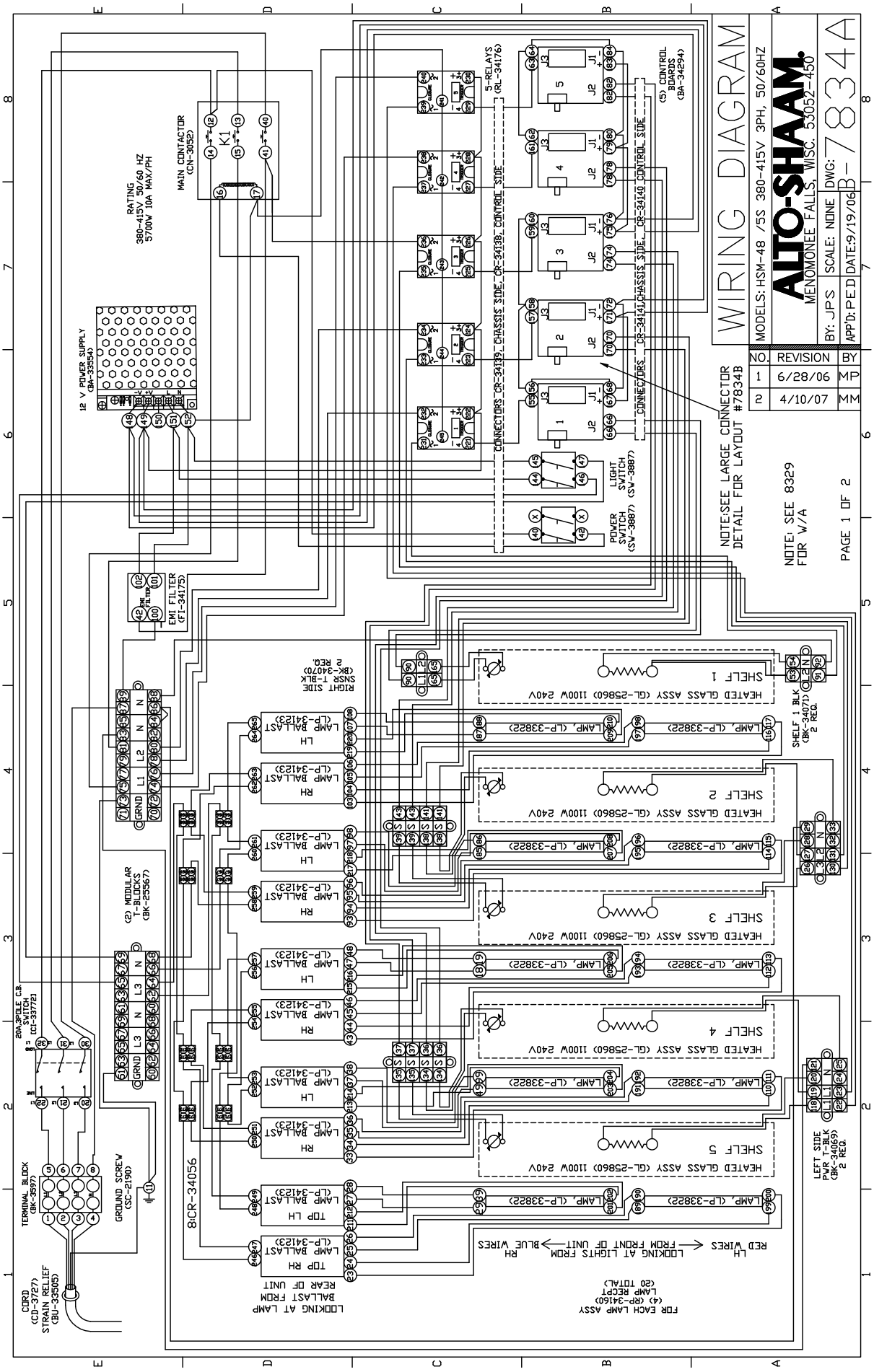
THIS SECTION IS PROVIDED FOR THE ASSISTANCE OF QUALIFIED SERVICE TECHNICIANS ONLY AND IS NOT INTENDED FOR USE BY UNTRAINED OR UNAUTHORIZED SERVICE PERSONNEL.

24•7
Your Service Hotline
1-800-558-8744


WIRING DIAGRAM
ALTO-SHAAM
MENOMONEE FALLS, WISC. 53052-450
MODELS: HSM-38/3S,38/3S/PT 208-240V 1PH
BY: DDF
SCALE: NONE
DWG: B-7832A
APP'D: PED
DATE: 11/17/04
PAGE 1 OF 2
NO. REVISION BY
1 09/19/07 DAR
2 01/23/08 DAR
SEE LARGE CONNECTOR DETAIL FOR LAYOUT #7832B
SEE SMALL CONNECTOR DETAIL FOR LAYOUT #7832B
MAIN CONTACTOR (CN-3052)
RATING 208-240V 50/60 HZ 3000W 12.5 A MAX
12 V POWER SUPPLY (BA-33554)
(3) CONTROL BOARDS (BA-34294)
CONNECTORS CR-34139 CHASSIS SIDE, CR-34138 CONTROL SIDE
CONNECTORS CR-34141 CHASSIS SIDE, CR-34140 CONTROL SIDE
LIGHT SWITCH (SW-3887)
POWER SWITCH (SW-3887)
T-BLOCK (BK-33546)
HEATED GLASS ASSY (GL-26212) 950W 240V
SHELF 1
SHELF 2
SHELF 3
(LP-34156)
LAMP BALLAST (LP-34135)
103,104,107,108 USE (CR-34057)
105,106 USE (CR-34056)
(2) MODULAR T-BLOCKS (BK-25567)
GFCI BREAKER SWITCH (CI-34105)
SENSOR T-BLOCK (BK-34070)
POWER T-BLOCK (BK-34069)
TERMINAL BLOCK (BK-3019)
GROUND BAR (CI-3878)
STRAIN RELIEF (BU-33505)
CORD (CD-3607)
FOR EACH LAMP ASSY (2) (RP-34160) LAMP RECPT (6 TOTAL)
LH RED WIRES ← LOOKING AT LIGHTS FROM FRONT OF UNIT → RH BLUE WIRES


WIRING DIAGRAM
ALTO-SHAAM
MENOMONEE FALLS, WISC. 53052-450
MODELS: HSM-38/3S 230V 1PH
BY: DDF
SCALE: NONE
DWG: B-7833A
APP'D: PED
DATE: 11/17/04
PAGE 1 OF 2
NO. REVISION BY
1 8/06/07 BES
2 09/19/07 DAR
SEE LARGE CONNECTOR DETAIL FOR LAYOUT #7833B
SEE SMALL CONNECTOR DETAIL FOR LAYOUT #7833B
MAIN CONTACTOR (CN-3052)
RATING 230V 50/60 HZ 2700W 11.75 A MAX
12 V POWER SUPPLY (BA-33954)
EMI FILTER (FI-34175)
(3) CONTROL BOARDS (BA-26247)
CONNECTORS CR-34139, CHASSIS SIDE, CR-34138, CONTROL SIDE
CONNECTORS CR-3414J CHASSIS SIDE, CR-3414J CONTROL SIDE
LIGHT SWITCH (SW-3887)
POWER SWITCH (SW-3887)
(2) MODULAR T-BLOCKS (BK-25567)
T-BLOCK (BK-33546)
HEATED GLASS ASSY (GL-26212) 950W 240V
SHELF 1
SHELF 2
SHELF 3
LAMP BALLAST (LP-34123)
(LP-33822)
POWER SWITCH (SW-33362)
TERMINAL BLOCK (BK-3019)
GROUND BAR (CI-3878)
STRAIN RELIEF (BU-33505)
CORD (CD-33490)
FOR EACH LAMP ASSY (2) (RP-34160) LAMP RECPT (6 TOTAL)
LH RED WIRES ← LOOKING AT LIGHTS FROM FRONT OF UNIT → RH BLUE WIRES


WIRING DIAGRAM
ALTO-SHAAM
MENOMONEE FALLS, WISC. 53052-450
MODELS: HSM-48 /5S
208-240V
BY: JPS
SCALE: NONE
DWG: B-7757A
APP'D: PED
DATE: 03/23/06
NO. REVISION BY
1 6/21/05 MM
2 8/11/06 MM
3 08/22/06 BT
PAGE 1 OF 2
MAIN CONTACTOR (CN-3052)
RATING 208-240V 50/60 HZ 5700W @240V
12 V POWER SUPPLY (BA-33554)
(5) CONTROL BOARDS (BA-34294)
SEE LARGE CONNECTOR DETAIL FOR LAYOUT #7757B
SEE SMALL CONNECTOR DETAIL FOR LAYOUT #7757B
CONNECTORS CR-34139, CHASSIS SIDE, CR-34136 CONTROL SIDE
CONNECTORS CR-34141, CHASSIS SIDE, CR-34140 CONTROL SIDE
LIGHT SWITCH (SW-3887)
POWER SWITCH (SW-3887)
GFCI BREAKER SWITCH (CI-34105)
TERMINAL BLOCK (BK-3019)
GROUND BAR (CI-3878)
STRAIN RELIEF (BU-33505)
(2) MODULAR T-BLOCKS (BK-25567)
LAMP BALLAST (LP-34024)
RIGHT SIDE SNSR T-BLK (BK-34070) REQ.
HEATED GLASS ASSY (GL-25860) 1100W 240V
LAMP, (LP-33822)
SHELF 1
SHELF 2
SHELF 3
SHELF 4
SHELF 1 BLK (BK-34071) 2 REQ.
LEFT SIDE PWR T-BLK (BK-34069) 2 REQ.
FOR EACH LAMP ASSY (4) (RP-34160) LAMP RECPT (20 TOTAL)
LOOKING AT LIGHTS FROM FRONT OF UNIT
LH
RH
RED WIRES
BLUE WIRES


WIRING DIAGRAM
MODELS: HSM-48 /5S 380-415V 3PH, 50/60HZ
ALTO-SHAAM
MENOMONEE FALLS, WISC. 53052-450
BY: JPS
SCALE: NONE
DWG: B-7834
APP'D: PE D
DATE: 9/19/06
NO. REVISION BY
1 6/28/06 MP
2 4/10/07 MM
NOTE: SEE LARGE CONNECTOR DETAIL FOR LAYOUT #7834B
NOTE: SEE 8329 FOR W/A
PAGE 1 OF 2
MAIN CONTACTOR (CN-30521)
RATING 380-415V 50/60 HZ 5700W 10A MAX/PH
12 V POWER SUPPLY (BA-33554)
EMI FILTER (FI-34175)
5-RELAYS (RL-34176)
(5) CONTROL BOARDS (BA-34294)
CONNECTORS CR-34139, CHASSIS SIDE, CR-34138, CONTROL SIDE
CONNECTORS CR-34141, CHASSIS SIDE, CR-34140 CONTROL SIDE
LIGHT SWITCH (SW-3887)
POWER SWITCH (SW-3887)
(2) MODULAR T-BLOCKS (BK-25567)
20A 3POLE C.B. SWITCH (CI-33772)
TERMINAL BLOCK (BK-3597)
GROUND SCREW (SC-2190)
CORD (CD-3727) STRAIN RELIEF (BU-33505)
8CR-34056
TOP LH LAMP BALLAST (LP-34123)
TOP RH LAMP BALLAST (LP-34123)
LH LAMP BALLAST (LP-34123)
RH LAMP BALLAST (LP-34123)
LOOKING AT LAMP BALLAST FROM REAR OF UNIT
FOR EACH LAMP ASSY (4) (RP-34160) LAMP RECPT (20 TOTAL)
LOOKING AT LIGHTS FROM FRONT OF UNIT
LH RED WIRES
RH BLUE WIRES
HEATED GLASS ASSY (GL-25860) 1100W 240V
SHELF 1
SHELF 2
SHELF 3
SHELF 4
SHELF 5
LAMP, (LP-33822)
SHELF 1 BLK (BK-34071) 2 REQ.
LEFT SIDE PWR T-BLK (BK-34069) 2 REQ.
RIGHT SIDE SNSR T-BLK (BK-34070) 2 REQ.

TRANSPORTATION DAMAGE and CLAIMS

All Alto-Shaam equipment is sold F.O.B. shipping point, and when accepted by the carrier, such shipments become the property of the consignee.

Should damage occur in shipment, it is a matter between the carrier and the consignee. In such cases, the carrier is assumed to be responsible for the safe delivery of the merchandise, unless negligence can be established on the part of the shipper.

1. Make an immediate inspection while the equipment is still in the truck or immediately after it is moved to the receiving area. Do not wait until after the material is moved to a storage area.

2. Do not sign a delivery receipt or a freight bill until you have made a proper count and inspection of all merchandise received.

3. Note all damage to packages directly on the carrier's delivery receipt.

4. Make certain the driver signs this receipt. If he refuses to sign, make a notation of this refusal on the receipt.

5. If the driver refuses to allow inspection, write the following on the delivery receipt:
   Driver refuses to allow inspection of containers for visible damage.

6. Telephone the carrier's office immediately upon finding damage, and request an inspection. Mail a written confirmation of the time, date, and the person called.

7. Save any packages and packing material for further inspection by the carrier.

8. Promptly file a written claim with the carrier and attach copies of all supporting paperwork.

We will continue our policy of assisting our customers in collecting claims which have been properly filed and actively pursued. We cannot, however, file any damage claims for you, assume the responsibility of any claims, or accept deductions in payment for such claims.

ALTO-SHAAM® LIMITED WARRANTY

Alto-Shaam, Inc. warrants to the original purchaser only that any original part that is found to be defective in material or workmanship will, at Alto-Shaam's option, subject to provisions hereinafter stated, be replaced with a new or rebuilt part.

The parts warranty period is as follows:

For the refrigeration compressor on Alto-Shaam Quickchillers™, five (5) years from the date of installation.

For the heating element on Halo Heat® cook/hold ovens, as long as the original purchaser owns the oven.

For all other parts, one (1) year from the date of installation or fifteen (15) months from the shipping date, whichever occurs first.

The labor warranty period is one (1) year from the date of installation or fifteen (15) months from the shipping date, whichever occurs first.

Alto-Shaam will bear normal labor charges performed during standard business hours, excluding overtime, holiday rates or any additional fees.

To be valid, a warranty claim must be asserted during the applicable warranty period. This warranty is not transferable.

THIS WARRANTY DOES NOT APPLY TO:

1. Calibration.
2. Replacement of light bulbs and/or the replacement of display case glass due to damage of any kind.
3. Equipment damage caused by accident, shipping, improper installation or alteration.
4. Equipment used under conditions of abuse, misuse, carelessness or abnormal conditions, including but not limited to, equipment subjected to harsh or inappropriate chemicals, including but not limited to, compounds containing chloride or quaternary salts, poor water quality, or equipment with missing or altered serial numbers.
5. Damage incurred as a direct result of poor water quality, inadequate maintenance of steam generators and/or surfaces affected by water quality. Water quality and required maintenance of steam generating equipment is the responsibility of the owner/operator.
6. Damage caused by use of any cleaning agent other than Alto-Shaam's Combitherm® Cleaner, including but not limited to damage due to chlorine or other harmful chemicals. **Use of Alto-Shaam's Combitherm® Cleaner on Combitherm® ovens is highly recommended.**
7. Any losses or damage resulting from malfunction, including loss of product or consequential or incidental damages of any kind.
8. Equipment modified in any manner from original model, substitution of parts other than factory authorized parts, removal of any parts including legs, or addition of any parts.

This warranty is exclusive and is in lieu of all other warranties, express or implied, including the implied warranties of merchantability and fitness for a particular purpose. In no event shall Alto-Shaam be liable for loss of use, loss of revenue or profit, or loss of product, or for any indirect, special, incidental, or consequential damages. No person except an officer of Alto-Shaam, Inc. is authorized to modify this warranty or to incur on behalf of Alto-Shaam any other obligation or liability in connection with Alto-Shaam equipment.

ALTO-SHAAM, INC.

Effective 02/09

RECORD THE MODEL AND SERIAL NUMBER OF THE APPLIANCE FOR EASY REFERENCE.
ALWAYS REFER TO BOTH MODEL AND SERIAL NUMBER IN ANY CONTACT WITH ALTO-SHAAM REGARDING THIS APPLIANCE.

Model: _____ Date Installed: _____
Voltage: _____ Purchased From: _____
Serial Number: _____ _____

W164 N9221 Water Street • P.O. Box 450 • Menomonee Falls, Wisconsin 53052-0450 • U.S.A.
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